

### **3. LYSIMETER AND PERCHED WATER SAMPLING LOCATIONS AND INSTALLATION INFORMATION**

Lysimeter and perched water wells will be sampled routinely in accordance with the guidelines in Section 5 and applicable technical procedures. The current list of active lysimeters is provided in Table 3-1, and the locations of lysimeters and perched water wells are provided in Figures 3-1, 3-2, and 3-3 for the 0- to 35-ft, 35- to 140-ft, and >140-ft depth intervals, respectively. Additional information about the lysimeters, including their construction and original objectives, is provided in the following discussion.

Monitoring of contaminants in soil moisture began with the installation of lysimeters by the Subsurface Investigation Program in 1985. The first lysimeters were installed to characterize solution chemistry and to define radionuclide migration in the vadose zone (Hubbell et al. 1985). Shallow lysimeters were installed in auger holes with silica flour slurry surrounding the lysimeter cup. A 2- to 3-in. layer of bentonite was placed on top of the silica flour as a moisture seal, and native sediments were used to backfill the borehole. Deep lysimeters in the B-C and C-D interbeds were installed in silica flour slurry, and bentonite was used to seal between instrument installations in the same borehole. From 1985 through 1987, 32 suction lysimeters were installed in surficial sediments in and around the RWMC, and seven deep lysimeters were installed in sedimentary interbeds (Hubbell et al. 1985, 1987; Laney et al. 1988).

As part of remediation and monitoring activities for Pad A (Parsons 1995a, 1995b), two lysimeters were installed in December 1994. Lysimeter L33 was installed at a depth of 10 ft below land surface on the north side of Pad A in borehole PA03 (see Figure 3-1). Pad A is an aboveground disposal area located on an asphalt pad. However, well logs indicate that drillers did not encounter the asphalt pad when augering borehole PA03; therefore, either the asphalt pad does not extend as far as borehole PA03, or the lysimeter is located in cover material above the asphalt pad. Lysimeter L34 was installed in a horizontal borehole under the asphalt at Pad A in borehole PA04. Lysimeter L34 is located near the center of Pad A, approximately 165 ft northeast of the borehole PA04 wellhead. Both lysimeters were installed in silica flour, and bentonite was used to seal the silica flour layer.

Five lysimeters, L35 through L39, were installed in surficial sediments in the SDA in 1998 to assess magnesium chloride migration in soil at the SDA (see Figure 3-1 and Table 3-1). Magnesium chloride was applied to SDA roads to suppress dust in 1984, in 1985, and in the early 1990s, and the chloride might contribute to the corrosion of buried waste containers (Hull and Bishop 2003). Each of the lysimeters was installed as close as possible to the sediment/basalt interface. A soil slurry was placed around the porous ceramic cup, native soil was used to backfill the borehole, and a 1-ft layer of bentonite was placed 2 ft above the instrument to serve as a barrier to downhole water movement.

Suction lysimeters L40 and L41 were installed in 1994 to collect water samples near buried beryllium blocks near the west end of Soil Vault Row (SVR)-20. Lysimeter cups were placed in native fill material with a layer of sand above and below the lysimeter, and the borehole was backfilled with bentonite. Several attempts were made to collect a sample from L40, but a sufficient vacuum to collect a sample could not be maintained. The deeper lysimeter, L41, yielded enough sample volume to analyze for chloride, C-14, and tritium (Ritter and McElroy 1999).

From November 1999 through March 2000, 22 deep lysimeters, DL08 through DL29, were installed inside and outside the SDA (Dooley and Higgs 2003) (see Figures 3-2 and 3-3 and Table 3-1). The porous cups on these lysimeters are stainless steel with -600 cm of water air entry pressure. Installation was similar to the procedure described above with silica flour slurry between layers of

Table 3-1. Suction lysimeters installed at the RWMC.

Lysimeter	Well	Date Installed	Lysimeter Depth (ft)	Cup Type
L01	W02 <sup>a</sup>	June 14, 1985	14.0	Ceramic
L02	W03	June 17, 1985	10.5	Ceramic
L03	W04	June 19, 1985	24.5	Ceramic
L04	W04	June 19, 1985	15.4	Ceramic
L05	W04	June 19, 1985	6.2	Ceramic
L06	W20	June 28, 1985	6.7	Teflon
L07	W23	June 28, 1985	18.8	Teflon
L08	W23	June 28, 1985	11.8	Ceramic
L09	W23	June 28, 1985	7.7	Ceramic
L10	T23	July 2, 1985	19.0	Teflon
L11	C02	July 3, 1985	4.3	Teflon
L12	W08	July 9, 1985	22.1	Ceramic
L13	W08	July 9, 1985	11.3	Ceramic
L14	W08	July 9, 1985	6.2	Ceramic
L15	PA01 <sup>b</sup>	July 11, 1985	14.3	Ceramic
L16	PA02 <sup>b</sup>	July 11, 1985	8.7	Ceramic
L17	TH02	June 7, 1985	6.0	Ceramic
L18	TH04	April 23, 1985	4.0	Ceramic
L19	C01	August 6, 1986	17.7	Ceramic
L20	C01	August 6, 1986	7.4	Ceramic
L21	TH05	September 8, 1986	15.2	Ceramic
L22	TH05	September 8, 1986	5.9	Ceramic
L23	W09	September 17, 1986	14.8	Ceramic
L24	W05	September 22, 1986	15.9	Ceramic
L25	W05	September 22, 1986	10.0	Ceramic
L26	W05	September 22, 1986	6.7	Ceramic
L27	W06	September 23, 1986	11.8	Ceramic
L28	W25	September 24, 1986	15.5	Ceramic
L29	W13	September 20, 1986	14.0	Ceramic
L30	W13	September 28, 1986	6.7	Ceramic
L31	W17	September 29, 1986	19.6	Ceramic
L32	W17	September 29, 1986	10.9	Ceramic

Table 3-1. (continued).

Lysimeter	Well	Date Installed	Lysimeter Depth (ft)	Cup Type
L33	PA03 <sup>b</sup>	December 1994	10.0	Ceramic
L34	PA04 <sup>b</sup>	December 1994	~27	Ceramic
L35	98-1	February 2, 1998	16.5	Ceramic
L36	98-2	January 29, 1998	9.0	Ceramic
L37	98-3	February 4, 1998	22.5	Ceramic
L38	98-4	February 3, 1998	17.0	Ceramic
L39	98-5	February 2, 1998	10.5	Ceramic
L40	LYS-1	1994	19.7	Ceramic
L41	LYS-1	1994	6.6	Ceramic
DL01	D06	September 12, 1986	88.0	Ceramic
DL02	D06	September 12, 1986	44.0	Ceramic
DL03	TW1	June 25, 1987	226.9	Ceramic
DL04	TW1	June 25, 1987	101.7	Ceramic
DL05	D15	September 15, 1987	222.9	Ceramic
DL06	D15	September 15, 1987	97.9	Ceramic
DL07	D15	November 4, 1987	32.2	Ceramic
DL08	I-1D	~November 1999	224	Stainless steel
DL09	I-1S	~November 1999	101	Stainless steel
DL10	I-2D	~November 1999	196	Stainless steel
DL11	I-2S	~November 1999	92	Stainless steel
DL12	I-3D	~November 1999	228	Stainless steel
DL13	I-3S	~November 1999	93	Stainless steel
DL14	I-4D	~January 2000	226.5	Stainless steel
DL15	I-4S	~January 2000	97	Stainless steel
DL16	I-5S	~March 2000	98.7	Stainless steel
DL17	O-1	December 16, 1999	228	Stainless steel
DL18	O-1	December 16, 1999	96	Stainless steel
DL19	O-2	January 12, 2000	240	Stainless steel
DL20	O-2	January 12, 2000	106	Stainless steel
DL21	O-3	November 1999	219	Stainless steel
DL22	O-3	November 1999	87	Stainless steel
DL23	O-4	January 4, 2000	225	Stainless steel

Table 3-1. (continued).

Lysimeter	Well	Date Installed	Lysimeter Depth (ft)	Cup Type
DL24	O-4	January 4, 2000	108.5	Stainless steel
DL25	O-5	January 12, 2000	104	Stainless steel
DL26	O-6	November 1999	225	Stainless steel
DL27	O-7	November 1999	240	Stainless steel
DL28	O-7	November 1999	119	Stainless steel
DL29	O-8	~November 1999	228	Stainless steel
DL30	IE3	March 2003	225	Stainless steel
DL31	DE3	March 2003	345	Stainless steel
DL32	IE4	March 2003	223	Stainless steel
DL33	DE4	March 2003	463	Stainless steel
DL34	IE6	December 2002	215	Stainless steel
DL35	IE7	December 2002	231	Stainless steel
DL36	DE7	February 2003	377	Stainless steel
DL37	DE7	February 2003	413	Stainless steel
DL38	IE8	February 2003	224	Stainless steel
DL39	DE8	February 2003	393	Stainless steel



Lysimeter destroyed by Pit 9 activities.



Lysimeter yielded sample in the past but is no longer in the sampling network.



Lysimeter is in the sampling network now.



Lysimeter has never yielded a sample.

- a. Lysimeters L01 and W02 were inactivated after 1993, because they obstructed the construction phase of Pit 9 remediation activities.
- b. Boreholes PA01 and PA02 were located in surficial sediment a couple of feet off the edge of the Pad A asphalt pad. The lithologic log for borehole PA03 does not indicate augering through the asphalt pad. The lysimeter in borehole PA04 was installed under the asphalt pad.

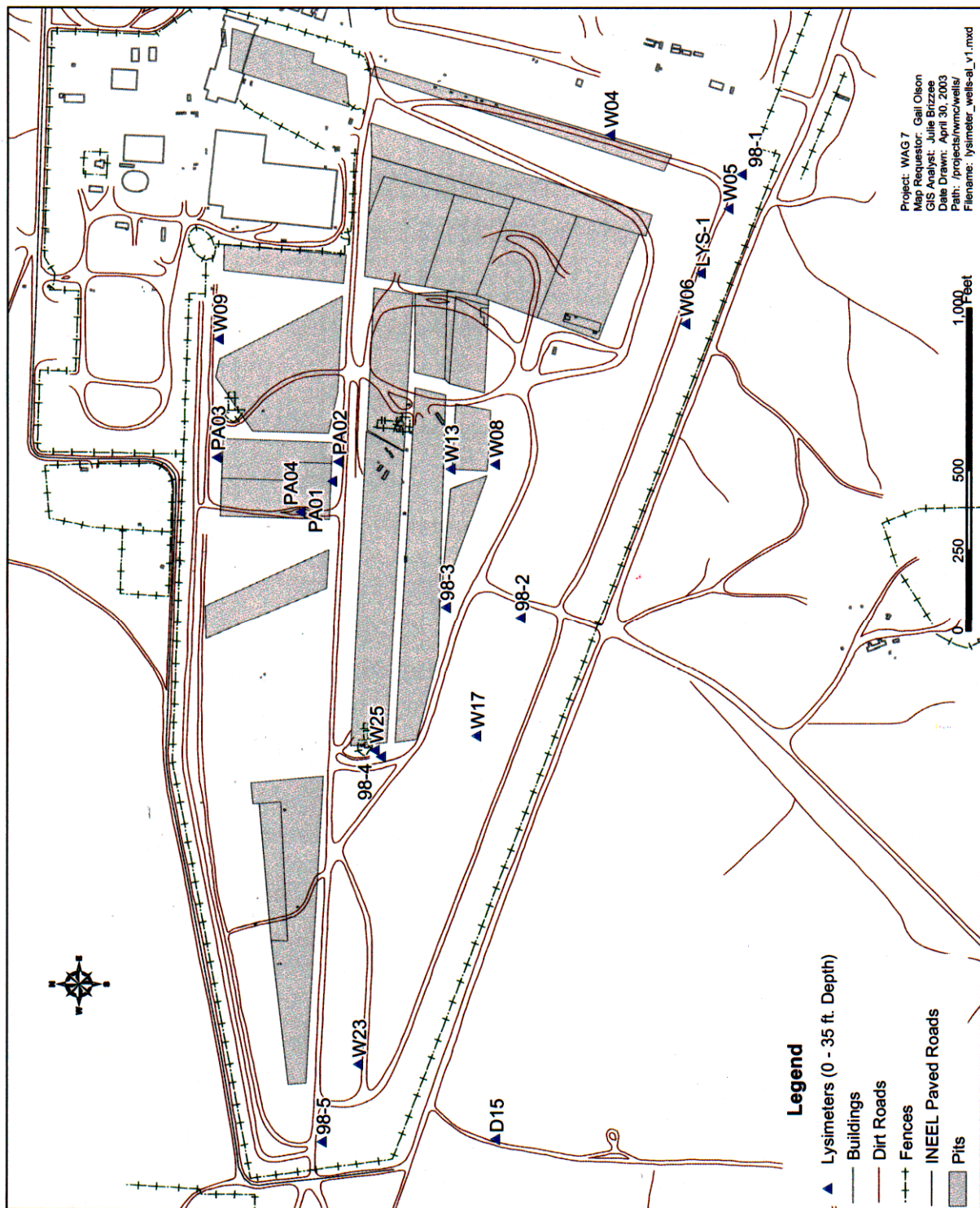


Figure 3-1. Locations of lysimeters and perched water wells in the 0- to 35-ft depth interval of the SDA.

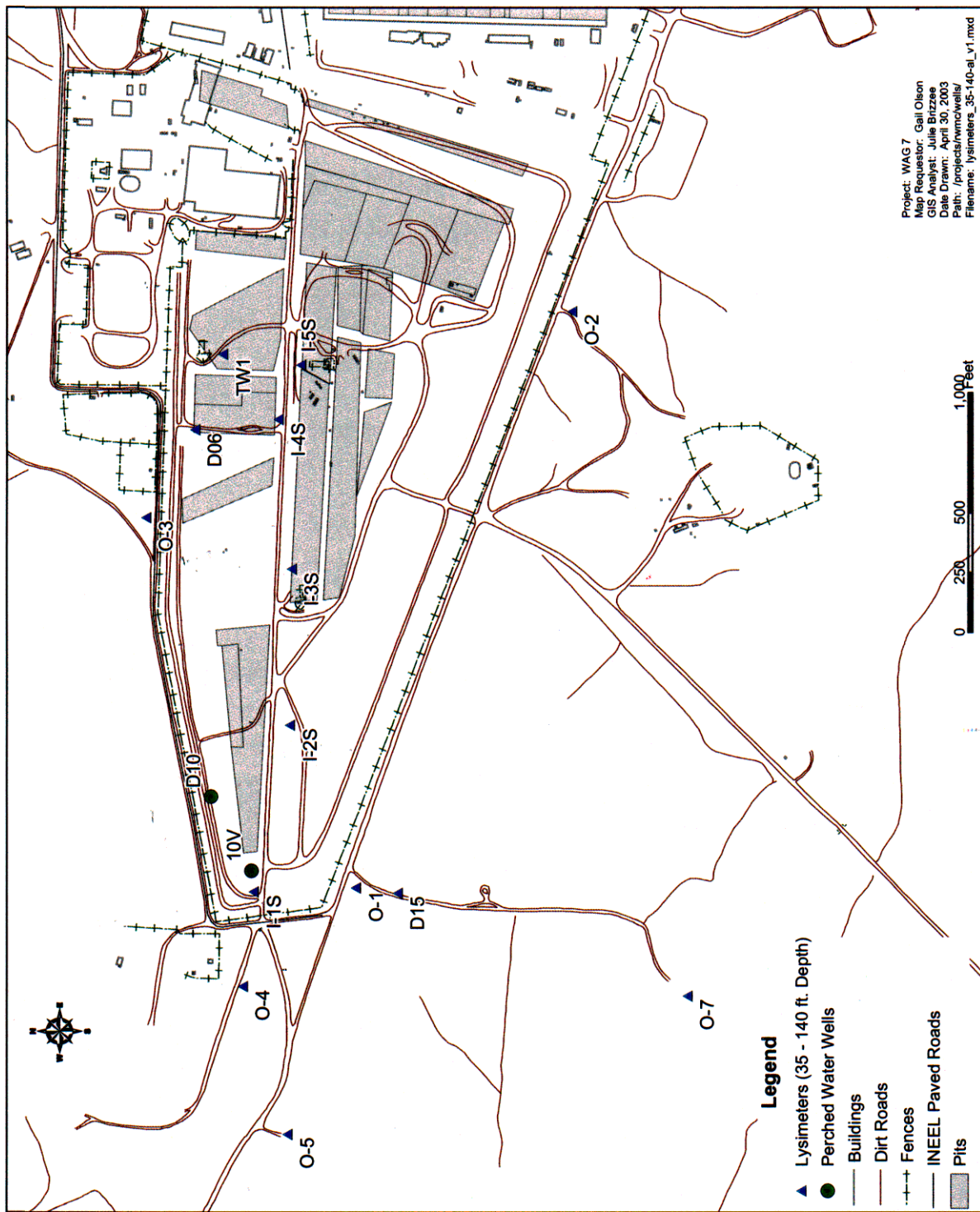
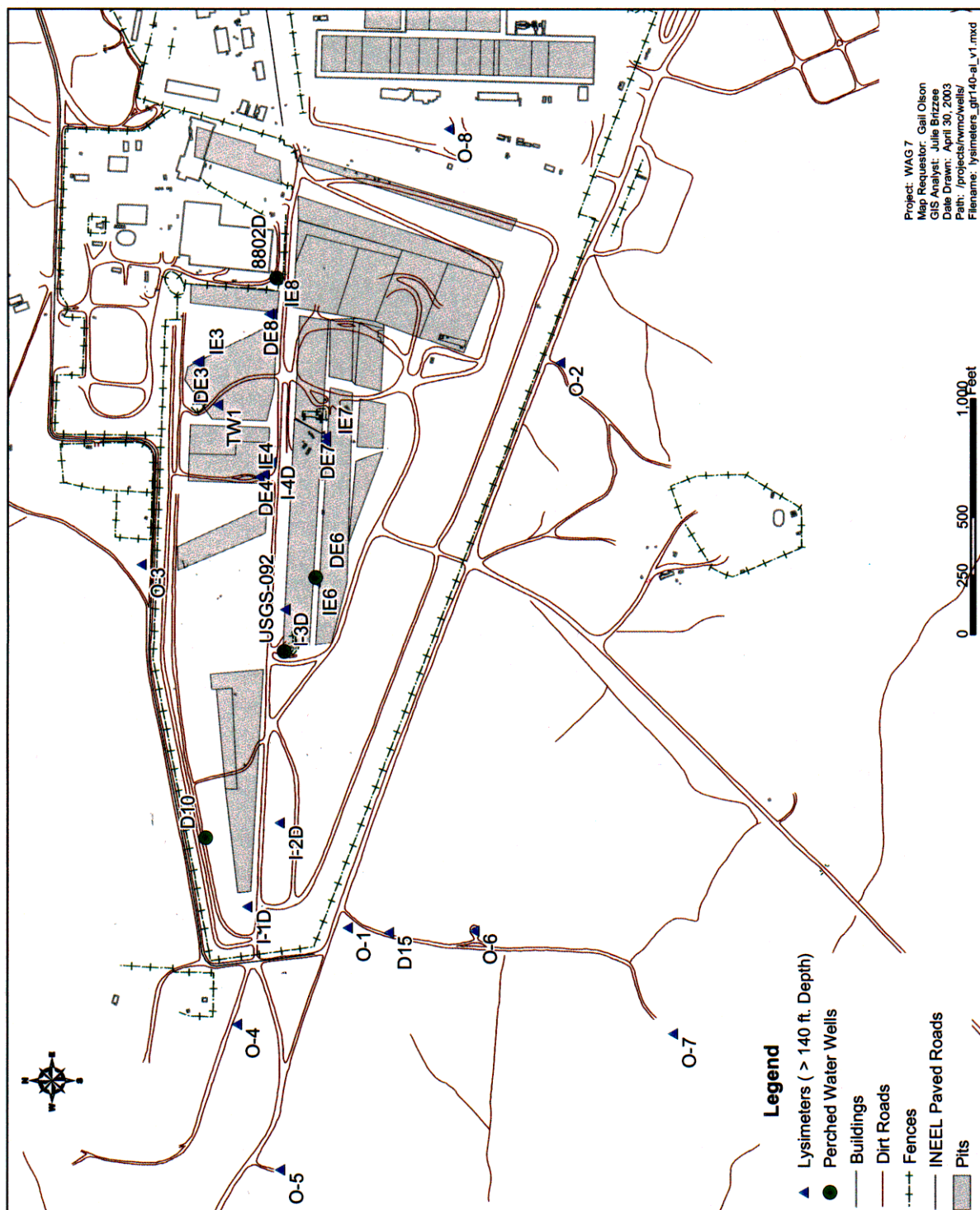


Figure 3-2. Locations of lysimeters and perched water wells in the 35- to 140-ft depth interval of the SDA.



bentonite. Between December 2002 and March 2003, 10 deep lysimeters, DL30 through DL39, were installed in nine wells inside the SDA in a manner similar to that described above. The stainless-steel porous cups of these lysimeters were saturated with distilled water before installation, which needs to be considered when evaluating data from the first round of samples collected from these lysimeters.

The lysimeter and perched water wells will be sampled routinely for the analyses specified in Section 2. All sampling will be conducted using the guidelines provided in Section 5. Table 3-1 identifies the lysimeters installed and sampled in and around the SDA.

## **4. SAMPLE IDENTIFICATION**

A systematic 10-character sample identification code will be used to uniquely identify all samples. The uniqueness of the number is required to maintain consistency and ensure that no two samples are assigned the same identification code. The sample numbers are assigned by Sampling and Analysis Management (SAM) personnel. The SAM's database is used to ensure the uniqueness of sample identification.

A SAP table format was developed to simplify the presentation of the sampling scheme for project personnel. The following subsections describe the information recorded in the SAP table and database. The current SAP table for lysimeter and perched water monitoring is provided in Appendix A. The field descriptions are described below.

### **4.1 Sample Description Fields**

The sample description fields contain information about individual sample characteristics.

#### ***Sampling Activity***

The sampling activity field contains the first six characters of the assigned sample number. The sample number in its entirety will be used to link information from other sources (e.g., field data, analytical data) to the information in the SAP table for data reporting, sample tracking, and completeness reporting. The analytical laboratory will also use the sample number to track and report analytical results.

#### ***Sample Type***

Data in this field will be selected from the following:

REG      for a regular sample

QC        for a quality control (QC) sample.

#### ***Sample Matrix***

This field describes the sample media/matrix, typically GROUND WATER or WATER for certain QC samples.

#### ***Collection Type***

This field is typically populated with GRAB or other codes for certain types of QC samples (e.g., FBLK for field blank).

#### ***Planned Date***

This date is related to the approximate planned sample-collection start date.

### **4.2 Sample Location Fields**

This group of fields describes the location of the sample origin.

### ***Area***

This field identifies the general sample-collection area, which is RWMC.

### ***Location***

This field contains the name of the well and lysimeter from which the sample was taken.

### ***Type of Location***

This field supplies descriptive information concerning the type of sample location, typically LYSIMETER (for lysimeters) or PERCHED WATER (for perched water samples, such as those collected from USGS-092).

### ***Depth***

The depth field contains the depth at which the respective sample was collected.

## **4.3 Analysis Types**

### ***AT1–AT20***

These fields contain analysis code designations. Specific descriptions for these analysis codes are provided at the bottom of the SAP table.

## **5. SAMPLING EQUIPMENT AND PROCEDURES**

Field sampling methods are discussed in detail in Technical Procedure (TPR)-1641, “Collection of Vadose Zone Water Samples at the RWMC.” General discussions of sample collection procedures are discussed in Subsection 5.1. Field analysis of samples is described in Subsection 5.2.

### **5.1 Sample Collection**

#### **5.1.1 Site Preparation**

All required documentation and safety equipment will be assembled at the well sampling site, including personal protective equipment (PPE); adequate sample bottles, lids, and labels; an argon gas bottle and regulator; and a vacuum pump and gauge.

Before sampling, all sampling personnel are responsible for reading the FSP, the corresponding health and safety plan, and TPR-1641 and for becoming familiar with the analytical requirements for that sampling round as stated in the SAP table. The field team leader (FTL) will perform a daily site briefing to discuss potential hazards and ensure that all personnel have the required training. The FTL or assigned team member will maintain all documents and filed data. This should be noted in the appropriate logbook.

#### **5.1.2 Applying Vacuum to Lysimeters**

Sampling personnel will follow the guidance for applying the vacuum to the lysimeters as outlined in Section 4.3 of TPR-1641. The vacuum should be left on the lysimeter for 7 to 14 days. Sampling personnel should check the status of the vacuums periodically and apply additional vacuum as necessary.

#### **5.1.3 Collecting Lysimeter Water Sample**

After the vacuum has been placed on the lysimeter for 7 to 14 days, sampling personnel will collect any soil moisture that has accumulated in the lysimeter. The water in the lysimeter should be removed by pressurizing the system with argon gas, steadily increasing the pressure of the argon through the air line until the pressure exceeds the weight of the water in the lysimeter. This will force the water to the surface. The water is collected in prepared bottles for shipment to laboratories.

#### **5.1.4 Collecting Perched Water Samples with a Bailer**

Wells containing perched water will be sampled with a bailer in accordance with TPR-1641.

### **5.2 Field Analysis**

Several analyses are being performed in the field for constituents sensitive to change as a function of time after sample collection. The analytical and instrument operational instructions are specified in operating manuals provided by the vendors for the equipment selected for the project. The analysis being performed in the field includes alkalinity and pH.

#### **5.2.1 Alkalinity**

A HACH digital titrator Model 16900 is being used to measure alkalinity in accordance with EPA SW846 Method 8203. Indicator powders are added, and the sample is titrated with sulfuric acid to colorimetric end points corresponding to a specific pH. The method is designed to measure alkalinity in the range of 10 to 4000 mg/L. The analytical procedure is given in the manufacturer’s operating manual (HACH 2000). This procedure covers quality assurance requirements and limitations of the method. The test

kit and method may be substituted with an equivalent test kit/method in the future without the need to revise this plan.

### **5.2.2 pH**

A Thermo Orion Model 230 Aplus meter is being used to measure pH in the field. The analytical method, including all calibration procedures, is contained in the unit's instruction manual (Thermo Orion 2001). The test kit and method may be substituted with an equivalent test kit/method in the future without the need to revise this plan.

## **6. SAMPLE HANDLING, PACKAGING, AND SHIPPING**

After lysimeter samples are collected, the gloved sampling technician will wipe the bottles to remove any residual water and will place them in the custody of the designated sample custodian. The sample custodian/shipper is responsible for ensuring that clear tape is placed over bottle labels, lids are checked for tightness, parafilm is placed around lids, and samples are bagged and properly packaged before shipment. Additional information is found in Management Control Procedure (MCP)-1193, "Handling and Shipping Samples for ER and D&D&D Projects."

Lysimeter samples have been collected periodically from the RWMC wells since the late 1980s. The laboratory results from all of these samples show that the samples are well below the U. S. Department of Transportation (DOT) classification of radioactive material. Based on the process knowledge from the previous monitoring results, samples taken from sampling locations included in this plan will not require a field sample radiation screen (gamma screen) or an off-site laboratory shipping screen.

Samples will be transported in accordance with the regulations issued by the DOT (49 CFR Parts 171 through 178) and EPA sample handling, packaging, and shipping methods (40 CFR 261.C.3C.3). Additional information is found in MCP-1193.



## **7. DOCUMENTATION**

The FTL or designee is responsible for controlling and maintaining all field documents and records and ensuring that all required documents are submitted to the SAM record coordinator.

Field changes will be implemented by the FTL in accordance with MCP-135, “Creating, Modifying and Canceling Procedures and other DMCS-Controlled Documents.” All entries will be made in permanent, nonsmearable black ink. All errors will be corrected by drawing a single line through the error and entering the correct information. All corrections will be initialed and dated.

The serial number or identification number and disposition of all controlled documents (e.g., chain-of-custody [COC] forms) will be recorded in the SAM record coordinator’s document control logbook. If any documents are lost, a new document will be completed. The loss of a document and an explanation of how the loss was rectified will be recorded in the document control logbook. The serial number and disposition of all damaged or destroyed field documents will also be recorded. All voided and completed documents will be maintained in a project file until project completion, at which time all logbooks, unused tags and labels, COC copies, etc., will be submitted to the SAM record coordinator.

The following is a list of all necessary field documents:

- COC forms
- Sample logbook
- QAPjP
- FSP and attachments
- Health and safety plan.

### **7.1 Labels**

All samples are identified by a sample label. Waterproof, gummed labels will be used. Labels may be affixed to sample containers before going to the field and can then be completed on the actual sample date. The label will contain the sample collection time and date, preservation used, type of analysis, etc. Labels will remain in the custody of the FTL or his designee when not in use. MCP-1192, “Chain of Custody and Sample Labeling for ER and D&D&D Projects,” establishes the container labeling procedure for this project.

### **7.2 Chain-of-Custody Forms**

The COC record is a form that serves as a written record of sample handling. When a sample changes custody, the person(s) relinquishing and receiving the sample will sign a COC form. Each change of possession will be documented; thus, a written record that tracks sample handling will be established. The custody procedure for this project is established by MCP-1192.

### **7.3 Logbooks**

Information pertaining to sampling activities will be entered in the sample logbook. Entries will be dated and signed by the individual making the entry. All logbooks will have a QC check for accuracy and completeness. MCP-1194, “Logbook Practices for ER and D&D&D Projects,” establishes the logbook use and administration procedure for this project.



## **8. HANDLING AND DISPOSITION OF INVESTIGATION DERIVED WASTE**

Waste generated from this project will be managed in accordance with the INEEL waste acceptance criteria (DOE-ID 2002b) and INEEL Waste Generator Services direction. Wastes generated from sampling include PPE and miscellaneous materials (paper towels, plastic bags, gloves, etc.). Based on previous sampling at the RWMC wells, it is not anticipated that any miscellaneous sampling materials will become radiologically contaminated. However, if this does occur, the waste will be bagged, secured with duct tape, and labeled per the radiological control technician's instructions.

In the fall of 2002, several issues were raised regarding the applicability of RCRA-listed waste codes (specifically the F039 code for multi-source leachate) to waste generated below the SDA. It was determined that RCRA-listed codes did not apply to most waste generated from subsurface monitoring activities below buried waste. However, there was one exception. Samples collected directly below the buried waste are candidates for characterization as an F039 multi-source, leachate-contaminated hazardous waste if they originate at or above the 110-ft interbed below the RWMC. Only one lysimeter being sampled under this investigation meets those criteria. It is lysimeter DL04, which was installed in well TW1. This lysimeter was completed at 101.7 ft below land surface within the apparent confines of Pit 5 (see Figure 3-2 and Table 3-1). Additionally, however, lysimeter DL03 was also installed in well TW1 at 226.9 ft below land surface, and there is a possibility that tags originally placed on DL03 and DL04 have been switched, making it uncertain which lysimeter is monitoring which zone. Efforts are being made to ascertain which lysimeter is which. Until this uncertainty can be resolved, waste generated from both lysimeters will be characterized as F039 multi-source, leachate-contaminated hazardous waste. When this question is resolved, waste from only one lysimeter is expected to be characterized in this way.

Special consideration will be taken regarding management of waste generated from this (these) lysimeter(s). The FTL will work with Waste Generator Services and SAM personnel to ensure that waste generated from this (these) lysimeter(s) (including used or discarded sample material) is characterized appropriately and proper notifications are made to the laboratories conducting analysis of the samples. In addition, if cost-effective waste disposition is unavailable, some analyses, including the field analyses described in Subsection 5.2, may not be conducted.



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**Appendix A**

**Examples of Sampling and Analysis Plan Tables**



**DRAFT**

Plan Table Number: INEEL-940027-U

SAT Number: INEEL-EXT-000-00714

Date: 04/28/2003

Plan Table Revision: 3

Project: PERCHED WATER & LYSIMETER SAMPLING AT THE SDA JULY 2003

Project Manager: CASPER, J. L.

Sampler: Casper, J. L.

SNO Contact: MCCORFF, T. W.

Sample Description					Planned Date	Sample Location			Enter Analysis Types (AT) and Quants Requested																			
Sampling Activity	Sample Type	Sample Matrix	Col Type	Sampling Method		Area	Type of Location	Location	Depth (ft)	AT1	AT2	AT3	AT4	AT5	AT6	AT7	AT8	AT9	AT10	AT11	AT12	AT13	AT14	AT15	AT16	AT17	AT18	AT19
SDAF73	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	DL390-8	228																			
SDAF74	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	L3598-1	16.5																			
SDAF75	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	L3698-2	9.0																			
SDAF76	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	L3758-3	22.5																			
SDAF77	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	L3858-4	17.0																			
SDAF78	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	L3958-5	10.5																			
SDAF79	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	D101D-06	88.0																			
SDAF80	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	D102D-08	44.0																			
SDAF81	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	DL381-10	224																			
SDAF82	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	D105H-15	101																			
SDAF83	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	DL101-20	196																			
SDAF84	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	DL11H-25	92																			
SDAF85	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	DL12H-30	222																			
SDAF86	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	DL13H-35	93																			
SDAF87	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	DL141-40	226.5																			

The sampling activity displayed on this table represents the first six characters of the sample identification number.

AT1: A100

AT2: A100

AT3: A100

AT4: A100

AT5: A100

AT6: A100

AT7: A100

AT8: A100

AT9: A100

AT10: A100

Analysis Sites:

Radiocesium - Site 1: C-38, Am-241, Tc-99, Gamma Spec (Mod Gamma Spec TAL), Hp-237, Pu-238, U-235

Radiocesium - Site 2: C-14, Tritium, Iodine-129

Contingencies:

Comments:

The priority of analysis shall be: C-14, gamma, Tc-99, U, Pu, Am, Arsenic, Methyls, I-131, C-136, I-129, and then Hp-237.

Samples are opportunistic and limited volumes are expected.

Samples collected from D101D-6 SHALL CARRY THE E088 LISTED WASTE CODE.

The sample containers are a larger than the minimal volume required. Please adhere to the minimal volumes and do not fill containers.

# DRAFT

Sample Description					Sample Location				Enter Analysis Types (AT) and Quantity Requested																				
Sampling Activity	Sample Type	Sample Matrix	Cell Type	Sampling Method	Planned Date	Area	Type of Location	Location	Depth (ft)	AT1	AT2	AT3	AT4	AT5	AT6	AT7	AT8	AT9	AT10	AT11	AT12	AT13	AT14	AT15	AT16	AT17	AT18	AT19	AT20
SDAF68	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	D1151-4S	97		1	1	1																
SDAF69	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	D1161-5S	97.5		1	1	1																
SDAF90	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	L15PA-01	14.3		1	1	1																
SDAF91	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	L16PA-02	8.7		1	1	1																
SDAF92	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	L33PA-03	10.0		1	1	1																
SDAF93	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	L34PA-04	-27		1	1	1																
SDAF94	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	D1037W1	228.9		1	1	1																
SDAF95	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	D1047W1	101.7		1	1	1																
SDAF96	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	L039U-04	24.5		1	1	1																
SDAF97	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	L04W-04	15.4		1	1	1																
SDAF98	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	L05W-04	6.2		1	1	1																
SDAF99	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	L24W-05	15.9		1	1	1																
SDAG00	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	L25W-05	10.0		1	1	1																
SDAG01	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	L26W-05	6.7		1	1	1																
SDAG02	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	L27W-06	11.8		1	1	1																

The sampling activity displayed on this table represents the first six characters of the sample identification number.

Comments:

The priority of analyses shall be: C-14, gamma, Tc-99, U, Pu, Am, fission, Neptunium, H-3, Cs-137, I-129, and then Ne-237.

Samples are opportunistic and limited volumes are expected.

Samples collected from D1047W1 SHALL CARRY THE F009 LISTED WASTE CODE

The sample containers are larger than the minimal volume required. Please adhere to the minimal volumes and do not fill containers.

Contingencies:

Analysis Suites:  
 Radiocesium - Suite 1: Cs-137, Am-241, Tc-99, Gamma Spec (Mod. Gamma Spec TRL), Ne-237, Pu-106, U-146  
 Radiocesium - Suite 2: C-14, Tritium (online), I-129



**DRAFT**

Plan Table Number: INEL-440077-U

SAP Number: INEL/CXT-2003-00714

Date: 04/28/2003 Plan Table Revision: 3

Project: PERCHED WATER & LYSIMETER SAMPLING AT THE SDA, JULY 2003

Project Manager: CASPER, J. L.

Sampler: Casper, J. L.

SNO Contact: MCGRIFF, T. W.

Sample Description					Sample Location					Enter Analysis Types (AT) and Quantity Requested																			
Sampling Activity	Sample Type	Sample Matrix	Coil Type	Sampling Method	Planned Date	Area	Type of Location	Location	Depth (ft)	AT1	AT2	AT3	AT4	AT5	AT6	AT7	AT8	AT9	AT10	AT11	AT12	AT13	AT14	AT15	AT16	AT17	AT18	AT19	AT20
SDAG18	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	DL05D-15	97.9	1	1	1																	
SDAG19	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	DL07D-15	32.2	1	1	1	1	1															
SDAG20	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	DL17D-1	228	1	1	1	1	1															
SDAG21	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	DL18D-1	96	1	1	1	1	1															
SDAG22	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	DL19D-2	240	1	1	1	1	1															
SDAG23	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	DL20D-2	106	1	1	1	1	1															
SDAG24	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	DL21D-3	219	1	1	1	1	1															
SDAG25	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	DL22D-3	87	1	1	1	1	1															
SDAG26	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	DL23D-4	225	1	1	1	1	1															
SDAG27	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	DL24D-4	108.5	1	1	1	1	1															
SDAG28	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	DL25D-5	104	1	1	1	1	1															
SDAG29	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	DL26D-6	225	1	1	1	1	1															
SDAG30	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	DL26D-7	119	1	1	1	1	1															
SDAG31	REG	GROUND WATER	GRAB		07/01/2003	RWMC	LYSIMETER	DL27D-7	240	1	1	1	1	1															
SDAG32	REG	GROUND WATER	GRAB		07/01/2003	RWMC	PERCHED WATER	MS02	-10-20	1	1	1	1	1															

The sampling activity displayed on this table represents the first six characters of the sample identifier number.

The complete sample identification number (10 characters) will appear on field guidance forms and sample labels.

AT1: Actons	AT11:
AT2: Radiochemistry - Site 1	AT12:
AT3: Radiochemistry - Site 2	AT13:
AT4: Total Metals (TAL)	AT14:
AT5:	AT15:
AT6:	AT16:
AT7:	AT17:
AT8:	AT18:
AT9:	AT19:
AT10:	AT20:

Comments:

The priority of analyses shall be: C-14, gamma, Tc-99, U, Pu, Am, Arsons, Metals H-3, C-36, I-129, and then H-237.

Samples are opportunistic and limited volumes are expected.

Samples collected from DL04TWI SHALL CARRY THE F038 LISTED WASTE CODE.

The sample containers are larger than the minimal volume required. Please adhere to the minimal volumes and do not fill containers.

Contingencies:

Analysis Sites:

Radiochemistry - Site 1: C-36, Ar-241, Tc-99, Gamma Spec (Mod. Gamma Spec. TAL) No.237 Pu-Isop, U-Isop

Radiochemistry - Site 2: C-14, Tritium, Iodine-129

Sampling and Analysis Plan Table for Chemical and Radiological Analysis

Plan Table Number: INEEL-640027-U

SAP Number: INEEL-EXT-2000-60714

Date: 04/28/2003 Plan Table Revision: 3

Project: PERCHED WATER &amp; LYGMETER SAMPLING AT THE SDA JULY 2003

Project Manager: CASPER, J. L.

Sampler: Casper, J. L.

SMO Contact: MCGRIFF, T. W.

**DRAFT**

Sample Description					Sample Location					Enter Analysis Types (AT) and Quantity Requested																						
Sampling Activity	Sample Type	Sample Matrix	Coll Type	Sampling Method	Planned Date	Area	Type of Location	Location	Depth (ft)	AN	RH	LA	AT1	AT2	AT3	AT4	AT5	AT6	AT7	AT8	AT9	AT10	AT11	AT12	AT13	AT14	AT15	AT16	AT17	AT18	AT19	AT20
SDAG33	REG	GROUND WATER	GRAB		07/01/2003	RWMC	PERCHED WATER	MS03	-10-20	1	1	1																				
SDAG34	REG	GROUND WATER	GRAB		07/01/2003	RWMC	PERCHED WATER	MS04	-10-20	1	1	1																				
SDAG35	REG	GROUND WATER	GRAB		07/01/2003	RWMC	PERCHED WATER	NAT 6/1163	-10-20	1	1	1																				
SDAG36	REG	GROUND WATER	GRAB		07/01/2003	RWMC	PERCHED WATER	NAT 11/1156	-10-20	1	1	1																				
SDAG37	REG	GROUND WATER	GRAB		07/01/2003	RWMC	PERCHED WATER	NAT 12/1159	-10-20	1	1	1																				
SDAG38	REG	GROUND WATER	GRAB		07/01/2003	RWMC	PERCHED WATER	NAT 13	-10-20	1	1	1																				
SDAG39	REG	GROUND WATER	GRAB		07/01/2003	RWMC	PERCHED WATER	NAT 14	-10-20	1	1	1																				
SDAG40	REG	GROUND WATER	GRAB		07/01/2003	RWMC	PERCHED WATER	10/1116	-10-20	1	1	1																				
SDAG41	REG	GROUND WATER	GRAB		07/01/2003	RWMC	PERCHED WATER	O-10/145	-10-20	1	1	1																				
SDAG42	REG	GROUND WATER	GRAB		07/01/2003	RWMC	PERCHED WATER	USGS-092	216	1	1	1																				
SDAG43	REG	GROUND WATER	GRAB		07/01/2003	RWMC	PERCHED WATER	88-020	180	1	1	1																				
SDAG44	REG	GROUND WATER	GRAB		07/01/2003	RWMC	PERCHED WATER	DE-66	452	1	1	1																				
SDAG45	QC	WATER	FELX		07/01/2003	RWMC	FIELD BLANK	QC	NA	1	1	1																				

The sampling activity displayed on this table represents the first six characters of the sample identification number.

Analysis Subst:

AT1:

AT2: Radiochemistry - Suite 1

AT3: Radiochemistry - Suite 2

AT4: Total Metals (TAL)

AT5:

AT6:

AT7:

AT8:

AT9:

AT10:

AT11:

AT12:

AT13:

AT14:

AT15:

AT16:

AT17:

AT18:

AT19:

AT20:

Comments:

The priority of analyses shall be: C-14, gamma, I-99, U, Pu, Am, fission, Metals, H-3, C-36, I-129, and then H-237.

Samples are opportunistic and limited volumes are expected.

Samples collected from DUMATW. SMALL CARRY THE FDSB LISTED WASTE CODE

The sample containers are larger than the minimal volume required. Please adhere to the minimal volumes and do not fill containers.

## Sampling and Analysis Plan Table for Chemical and Radiological Analysis

Plan Table Number: INEL-940027-T

SAP Number: INEL/EXT-2000-00714

Date: 04/14/2003 Plan Table Revision: 1.0

Project: PERCHED WATER &amp; LYSIMETER SAMPLING AT THE SDA, APRIL 2003

Project Manager: CASPER, J.L.

Sampler: Casper, J.L.

SMO Contact: MCGRIFF, T. W.

Sample Description					Sample Location					Enter Analysis Types (AT) and Quantity Requested																				
Sampling Activity	Sample Type	Sample Matrix	Coil Type	Sampling Method	Planned Date	Area	Type of Location	Location	Depth (ft)	AT1	AT2	AT3	AT4	AT5	AT6	AT7	AT8	AT9	AT10	AT11	AT12	AT13	AT14	AT15	AT16	AT17	AT18	AT19	AT20	
SDAF01	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSIMETER	DL20-D8	228		1	1	1	1	1															
SDAF02	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSIMETER	L3508-1	16.5		1	1	1	1	1															
SDAF03	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSIMETER	L3086-2	9		1	1	1	1	1															
SDAF04	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSIMETER	L3786-3	22.5		1	1	1	1	1															
SDAF05	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSIMETER	L3808-4	17		1	1	1	1	1															
SDAF06	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSIMETER	L3808-5	10.5		1	1	1	1	1															
SDAF07	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSIMETER	DL01D-06	88		1	1	1	1	1															
SDAF08	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSIMETER	DL02D-06	44		1	1	1	1	1															
SDAF09	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSIMETER	DL09A-10	226		1	1	1	1	1															
SDAF10	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSIMETER	DL09A-1S	101		1	1	1	1	1															
SDAF11	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSIMETER	DL10D-2D	196		1	1	1	1	1															
SDAF12	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSIMETER	DL11A-2S	92		1	1	1	1	1															
SDAF13	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSIMETER	DL12D-3D	232		1	1	1	1	1															
SDAF14	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSIMETER	DL13A-3S	100		1	1	1	1	1															
SDAF15	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSIMETER	DL14A-4D	232		1	1	1	1	1															

The sampling activity displayed on this table represents the first six characters of the sample identifier number.

Comments:

The priority of analyses shall be: anions, metals, gamma, C-30, Tc-99, U, and C-14.

AT1: Acidity

AT2: Absorbance

AT3: C-14

AT4: Hydrogen ion (pH)

AT5: Radiochemistry, Suite 1

AT6: Total Metals (TAL)

AT7:

AT8:

AT9:

AT10:

AT11:

AT12:

AT13:

AT14:

AT15:

AT16:

AT17:

AT18:

AT19:

AT20:

Analysis Sales:  
Radiochemistry, Suite 1, C-30, Tc-99, Gamma Spec (Mod. Gamma Spec TAL), U-235

Contingencies

Sampling and Analysis Plan Table for Chemical and Radiological Analysis

Plan Table Number: INEEL-340027-T

SAP Number: INEEL/EXT-2000-00714

Date: 04/12/2003 Plan Table Revision: 1.0

Project: PERCHED WATER & LYSIMETER SAMPLING AT THE SDA, APRIL 2003

Project Manager: CASPER, J. L.

Sampler: Casper, J. L.

SAP Contact: MCGOFF, T. W.

Sample Description					Sample Location					Enter Analysis Types (AT) and Quantity Requested																			
Sampling Activity	Sample Type	Sample Matrix	Coll. Type	Sampling Method	Planned Date	Area	Type of Location	Location	Depth (ft)	AT1	AT2	AT3	AT4	AT5	AT6	AT7	AT8	AT9	AT10	AT11	AT12	AT13	AT14	AT15	AT16	AT17	AT18	AT19	AT20
SDAF15	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSMETER	DL15A-4S	98		1	1	1	1	1														
SDAF17	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSMETER	DL15B-5	97.5		1	1	1	1	1														
SDAF18	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSMETER	L15PA-01	14.5		1	1	1	1	1														
SDAF19	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSMETER	L16PA-02	8.5		1	1	1	1	1														
SDAF20	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSMETER	L33PA-03	9.5		1	1	1	1	1														
SDAF21	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSMETER	L34PA-04	TBD		1	1	1	1	1														
SDAF22	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSMETER	DL03T/W1	223		1	1	1	1	1														
SDAF23	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSMETER	DL04T/W1	102		1	1	1	1	1														
SDAF24	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSMETER	L03W-04	24.5		1	1	1	1	1														
SDAF25	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSMETER	L04W-04	15.5		1	1	1	1	1														
SDAF26	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSMETER	L05W-04	6		1	1	1	1	1														
SDAF27	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSMETER	L24W-05	16		1	1	1	1	1														
SDAF28	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSMETER	L25W-05	10		1	1	1	1	1														
SDAF29	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSMETER	L26W-05	6.5		1	1	1	1	1														
SDAF30	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSMETER	L27W-06	12		1	1	1	1	1														

The sampling activity displayed on this table represents the first six characters of the sample identification number.

AT1: Alkalinity

AT2: Acidity

AT3: C-14

AT4: Hydrogen Ion (pH)

AT5: Radiochemistry - Suite 1

AT6: Total Metals (TAL)

AT7:

AT8:

AT9:

AT10:

Analysis Sublet:

Radiochemistry - Suite 1 (C-36, Tc-99, Gamma Spec (Mod. Gamma Spec TAL)) U-iso

Contingencies:

Comments:

The priority of analyses shall be: anions, metals, gamma, C-36, Tc-99, U, and C-14.

Samples are opportunistic and limited volume are expected.

Samples collected from DLOMTW? SHALL CARRY THE F038 LISTED WASTE CODE

The sample containers are larger than the minimal volume required. Please adhere to the minimal volumes and do not fill containers.



Sampling and Analysis Plan Table for Chemical and Radiological Analysis

Plan Table Number: INEL-640022-T

SAP Number: INEL/EXT-2003-007-4

Date: 04/14/2003 Plan Table Revision: 1.0

Project: PERCHED WATER & LYSIMETER SAMPLING AT THE SDA, APRIL 2003

Project Manager: CASPER, J. L.

Sampler: Casper, J. L.

SNO Contact: MCGUFF, T. W.

Sample Description					Sample Location					Enter Analysis Types (AT) and Quantity Requested																			
Sampling Activity	Sample Type	Sample Matrix	Coll. Type	Sampling Method	Planned Date	Area	Type of Location	Location	Depth (ft)	AT1	AT2	AT3	AT4	AT5	AT6	AT7	AT8	AT9	AT10	AT11	AT12	AT13	AT14	AT15	AT16	AT17	AT18	AT19	AT20
SDAF46	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSIMETER	DL06D-15	98	1	1	1	1	1	1														
SDAF47	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSIMETER	DL07D-15	32	1	1	1	1	1	1														
SDAF48	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSIMETER	DL17D-1S	228	1	1	1	1	1	1														
SDAF49	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSIMETER	DL18D-1D	96	1	1	1	1	1	1														
SDAF50	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSIMETER	DL19D-2	240	1	1	1	1	1	1														
SDAF51	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSIMETER	DL20C-2	106	1	1	1	1	1	1														
SDAF52	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSIMETER	DL21C-3	216	1	1	1	1	1	1														
SDAF53	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSIMETER	DL22D-3	87	1	1	1	1	1	1														
SDAF54	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSIMETER	DL23C-4	225	1	1	1	1	1	1														
SDAF55	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSIMETER	DL24C-4	88	1	1	1	1	1	1														
SDAF56	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSIMETER	DL25D-5	104	1	1	1	1	1	1														
SDAF57	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSIMETER	DL26D-6	225	1	1	1	1	1	1														
SDAF58	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSIMETER	DL28D-7	119	1	1	1	1	1	1														
SDAF59	REG	GROUND WATER	GRAB		04/16/2003	RWMC	LYSIMETER	DL27D-7	240	1	1	1	1	1	1														
SDAF60	REG	GROUND WATER	GRAB		04/16/2003	RWMC	PERCHED WATER	MS32	-10-20	1	1	1	1	1	1														

The sampling activity displayed on this table represents the first six characters of the sample identification number.

AT1: Availability

AT2: Analysis

AT3: C-14

AT4: Hydrogen ion (pH)

AT5: Radiochemistry - Suite 1

AT6: Total Metals (TAL)

AT7:

AT8:

AT9:

AT10:

Analysis Subes:

Radiochemistry - Suite 1 (Q-99, Gamma Spec Mod, Gamma Spec TAL), U-Ho

The complete sample identification number (10 characters) will appear on field guidance forms and sample labels.

Comments:

The priority of analysis shall be: anions, metals, gamma, CI-36, TC-99, U, and C-14.

Samples are opportunistic and limited volumes are expected

Samples collected from DUA/TW1 SHALL CARRY THE FD09 LISTED WASTE CODE

The sample containers are larger than the minimal volume required. Please adhere to the minimal volumes and do not fill containers

Sampling and Analysis Plan Table for Chemical and Radiological Analysis

Plan Table Number: INEEL-940322-7  
 SVP Number: INEEL/SVT-2008-00714  
 Date: 04/14/2003 Plan Table Revision: 1.0  
 Project: PERCHED WATER & LYSIMETER SAMPLING AT THE SDW, APRIL 2003  
 Project Manager: CASPER, J.L.  
 SMO Contact: MCGOFF, T.W.  
 Sampler: Casper, J.L.

Sample Description					Sample Location					Error Analysis Types (AT) and Quantity Requested																			
Sampling Activity	Sample Type	Sample Matrix	Col Type	Sampling Method	Planned Date	Area	Type of Location	Location	Depth (ft)	AT1	AT2	AT3	AT4	AT5	AT6	AT7	AT8	AT9	AT10	AT11	AT12	AT13	AT14	AT15	AT16	AT17	AT18	AT19	AT20
SDAF51	REG	GROUND WATER	GRAB		04/16/2003	RWMC	PERCHED WATER	MS03	-10-20	1	1	1	1	1	1														
SDAF52	REG	GROUND WATER	GRAB		04/16/2003	RWMC	PERCHED WATER	MS04	-10-20	1	1	1	1	1	1														
SDAF53	REG	GROUND WATER	GRAB		04/16/2003	RWMC	PERCHED WATER	NAT 8/11/93	-10-20	1	1	1	1	1	1														
SDAF54	REG	GROUND WATER	GRAB		04/16/2003	RWMC	PERCHED WATER	NAT 11/1/96	-10-20	1	1	1	1	1	1														
SDAF55	REG	GROUND WATER	GRAB		04/16/2003	RWMC	PERCHED WATER	NAT 12/1/99	-10-20	1	1	1	1	1	1														
SDAF56	REG	GROUND WATER	GRAB		04/16/2003	RWMC	PERCHED WATER	NAT 13	-10-20	1	1	1	1	1	1														
SDAF57	REG	GROUND WATER	GRAB		04/16/2003	RWMC	PERCHED WATER	NAT 14	-10-20	1	1	1	1	1	1														
SDAF58	REG	GROUND WATER	GRAB		04/16/2003	RWMC	PERCHED WATER	10/7/116	-10-20	1	1	1	1	1	1														
SDAF59	REG	GROUND WATER	GRAB		04/16/2003	RWMC	PERCHED WATER	C-10145	-10-20	1	1	1	1	1	1														
SDAF70	REG	GROUND WATER	GRAB		04/16/2003	RWMC	PERCHED WATER	USGS-092	215	1	1	1	1	1	1														
SDAF71	REG	GROUND WATER	GRAB		04/16/2003	RWMC	PERCHED WATER	88-020	TBD	1	1	1	1	1	1														
SDAF72	QC	WATER	FBLK		04/16/2003	RWMC	FIELD BLANK	QC	NA	1	1	1	1	1	1														

The sampling activity displayed on this table represents the first six characters of the sample identification number. The complete sample identification number (10 characters) will appear on field guidance forms and sample labels.

AT1: Alkalinity  
 AT2: Arsenic  
 AT3: C-14  
 AT4: Hydrogen ion (pH)  
 AT5: Radiochemistry - Suite 1  
 AT6: Total Metals (TAL)  
 AT7:  
 AT8:  
 AT9:  
 AT10:  
 Analysis Suites:  
 Radiochemistry - Suite 1, C1-35, Tc-95, Gamma Spec (Mod Gamma Spec TAL), U/Sio

Comments:  
 The priority of analyses shall be anions, metals, gamma, C-14, Tc-95, U and C-14.  
 Samples are opportunistic and limited volumes are expected.  
 Samples collected from D104/TW1 SHALL CARRY THE F09 LISTED WASTE CODE  
 The sample containers are larger than the minimal volume required. Please adhere to the minimal volumes and do not fill containers.

Confingehdas: